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The automation system in significant variations of the signal-to-noise ratio

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Abstract

© 2015 IEEE. The paper describes the automation System for remote control, data collection and transmission based on the power line communication technology (PLC) and wireless radiofrequency communication technology (RF) in significant variations of the signal-to-noise ratio. The System consists of a Central server unit and multiple Peripheral units that collect process data from industrial equipment. The idea of adapting the communication protocols stack for the quality of the communication channel (signal-to-noise ratio) at the application layer of protocol stack is implemented. The paper presents the theoretical calculations of protocol parameters, and shows the results of field tests of the prototype of automation System.

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Keywords

automation system, data collection system, PLC, power line communications, RF